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(54) **SUBMARINE MAST AUTONOMOUS CONTROLLER AND METHOD**

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(57) **ABSTRACT**

A system and method provides automatic monitoring of data representing the onset of, or occurrence of fault conditions for a submarine mast system. The system is separately programmable and transparently operable with respect to the mast host system that controls mast functions. In a preferred embodiment, a plurality of sensors are in communication with a microprocessor system to record data by time and date of the event. The communication of data from the sensors to the microprocessor is electrically isolated from control signal communications to mast components, and the sensors are further individually opto-isolated. The microprocessor may selectively transfer data on a time-shared basis over host system communication lines to an independent memory collecting submarine fleet data, as an aid in fleet-wide maintenance decision making.

**21 Claims, 1 Drawing Sheet**